HNC SmartLink Product RFID Configuration Instruction

RFID Function

Catalogue

I. Overview

RFID technology uses radio signals to identify specific targets and read/write related data, providing a unique identity for items in industrial IoT. RFID tags are attached to items, and readers are used to retrieve tag information. Note: the RFID function is only supported on Pro-series HMI models or -R -RW (operating frequency: 13.56MHz).

II. Create Project

Open HTCloud Designer and create a new project.

1. Create Variables

Create an internal variable to read the RFID card ID. If required by the customer, it can also be configured as an external variable based on specific needs, as shown in Figure 1. Note: RFID data type is String. Set the string length as needed.

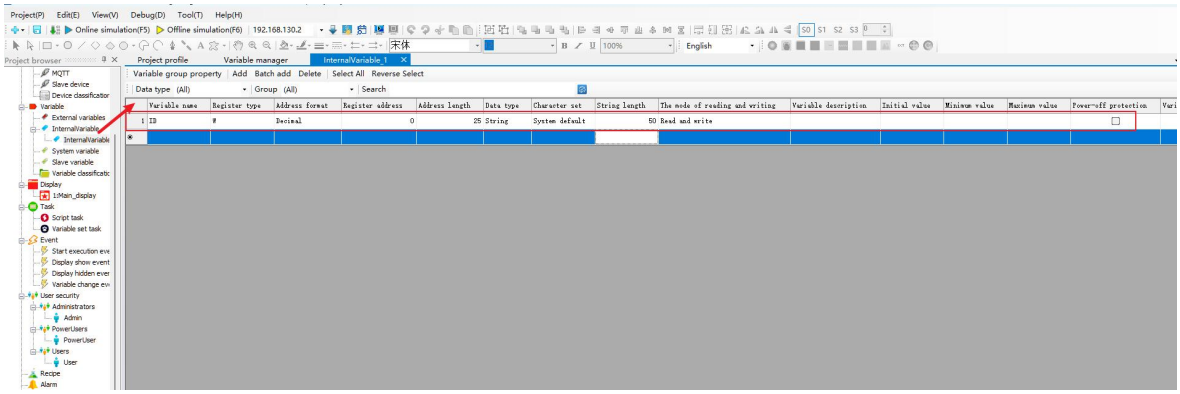


Figure1 Create Variables

2. Enable RFID Function

Double-click【RFID】in the left Project Browser. Check the "Enable" option in the settings interface and bind the corresponding variable to the "Write Variable" field, as shown in Figure 2.

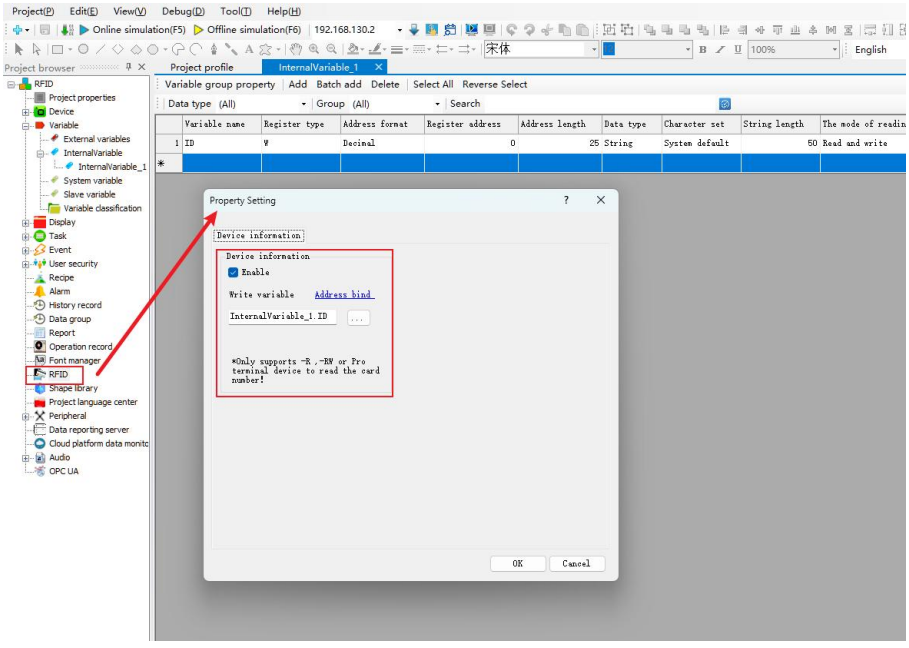


Figure2 Enable RFID

3. RFID Variable Binding

Return to the main display interface. In the Graphic Element Library - Functional Components panel on the right side, add the "Real time Data input/display" graphic element to the main screen. Double-click the element to access its property settings interface, bind the corresponding ID variable, and set the display length to 50 as shown in Figure 3. Note: The display length can be adjusted according to actual application requirements.

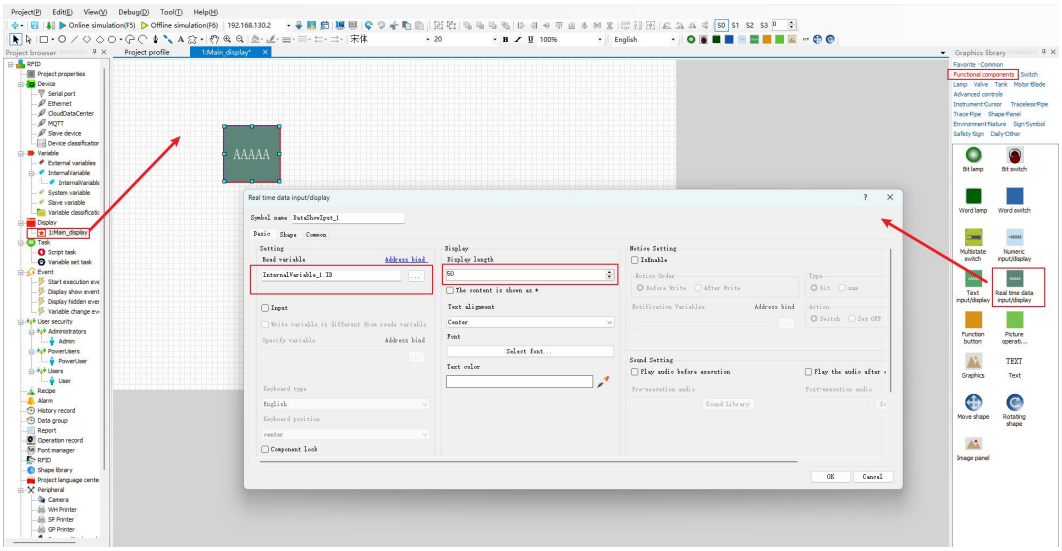


Figure3 RFID Variable Binding

4. Associated User

When the RFID card number is known, navigate to the left-side Project Browser – 【User Security】, select the relevant user in the user security group, double-click to open the settings interface, and add the RFID card number in the RFID section as shown in Figure 4.

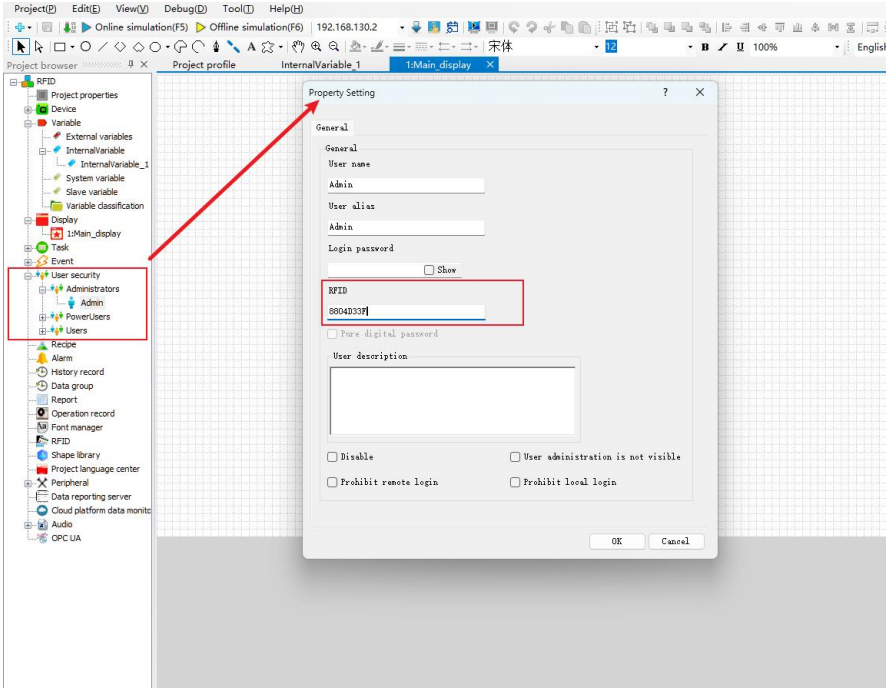
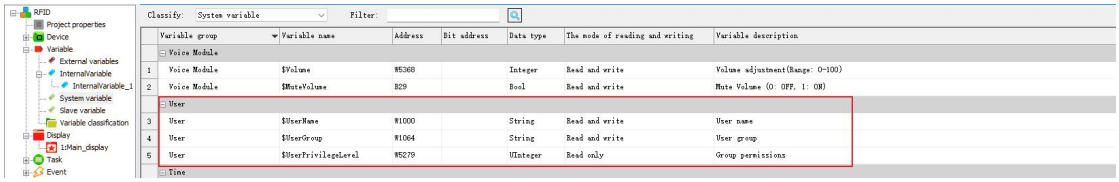


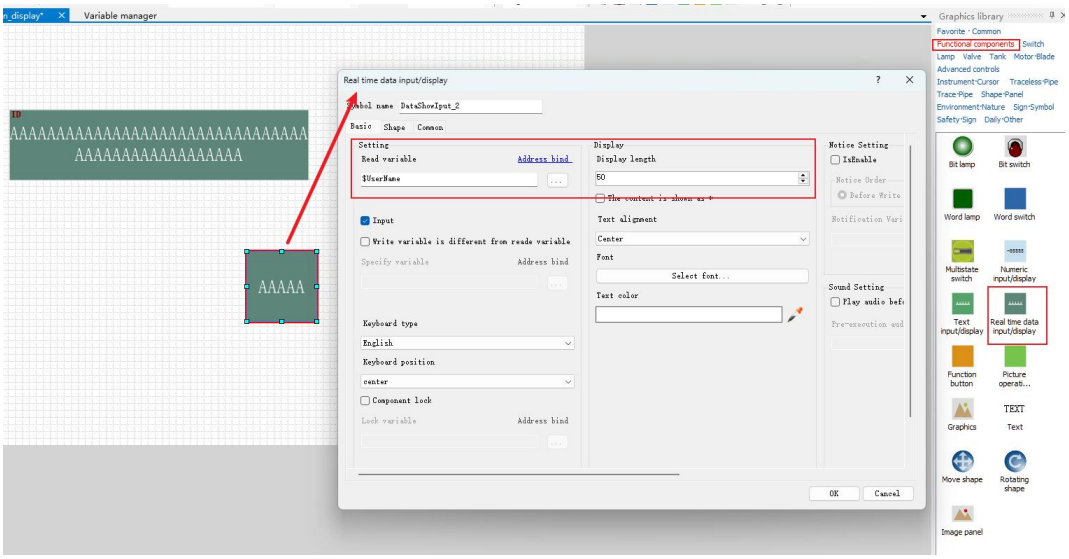
Figure4 Bind the User's RFID

5. Binding User Name

Simultaneously, users can add a "Real time Data input/display" primitive from the right-side Primitive Library. Double-click to bind variables – User Name from the user directory in system variables through the configuration interface. This enables RFID scans to display usernames corresponding to ID, facilitating user classification management, as shown in Figure 5.



(a)

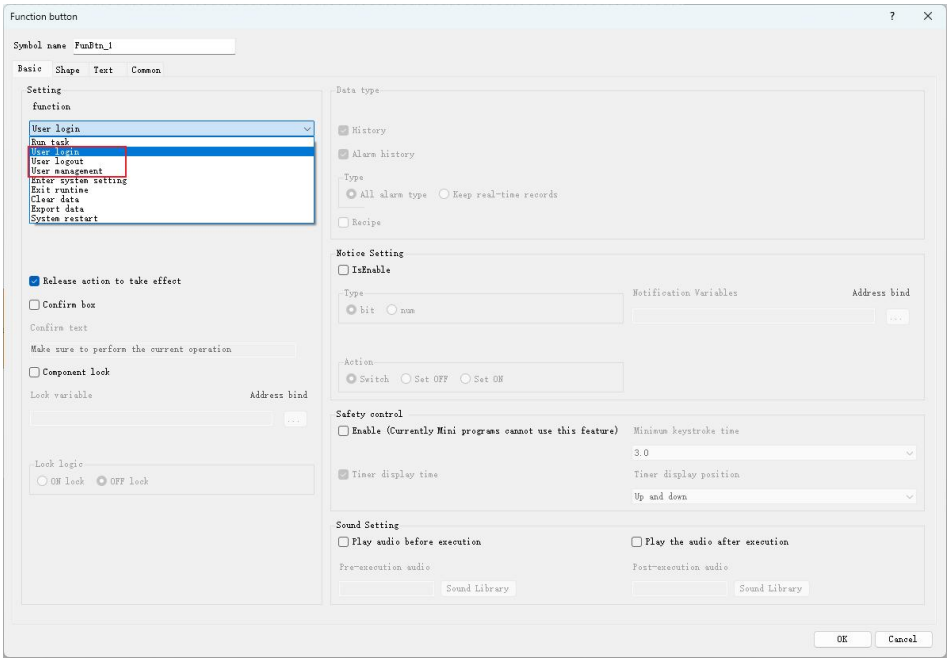


(b)

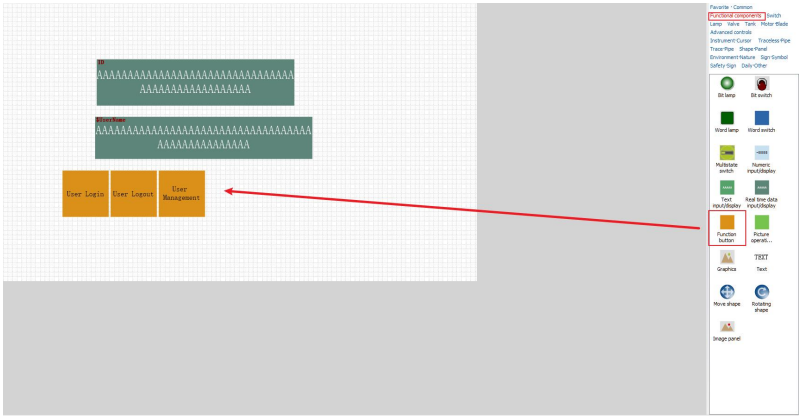
Figure5 Bind the User Name

6. Add user management primitives

From the "Functional Components" in the right-side Primitive Library, drag and drop three "Function Button" primitives. Double-click each to configure their respective functions in the settings interface as 【User Login】,【User Logout】, and【User Management】, as shown in Figure 6.



(a)



(b)

Figure6 Add User Management Primitives

7. Downloading the Project

Click to download the project to the corresponding HNC SmartLink device.

III. Actual Project Demo

1. Card Swipe Reading Demonstration

Place the RFID card on the "RFID" label located at the bottom-right corner of the HNC HMI. The HMI will automatically read the information from the RFID card and write it into the bound variables in the project, as shown in Figure 7.

(a)

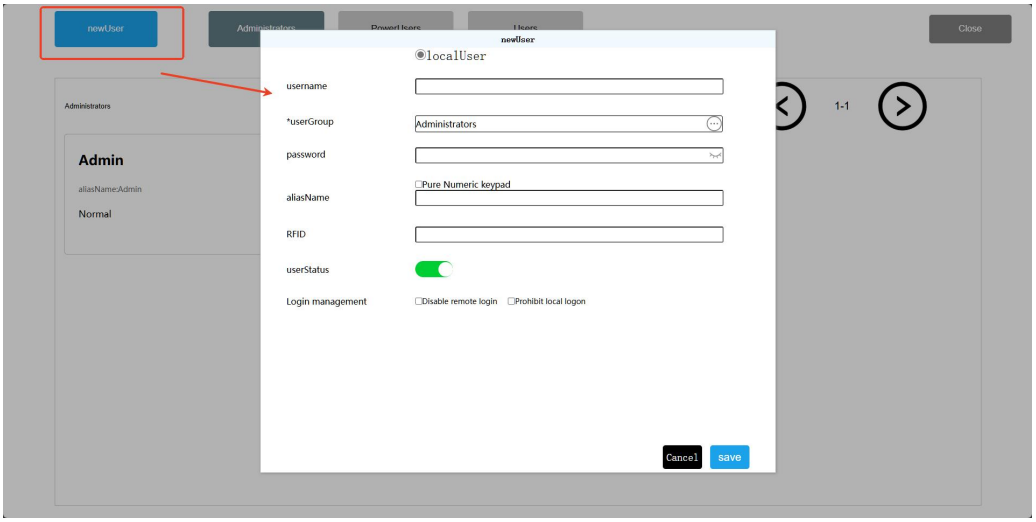
(b)

Figure7 Card Swipe Reading Demonstration

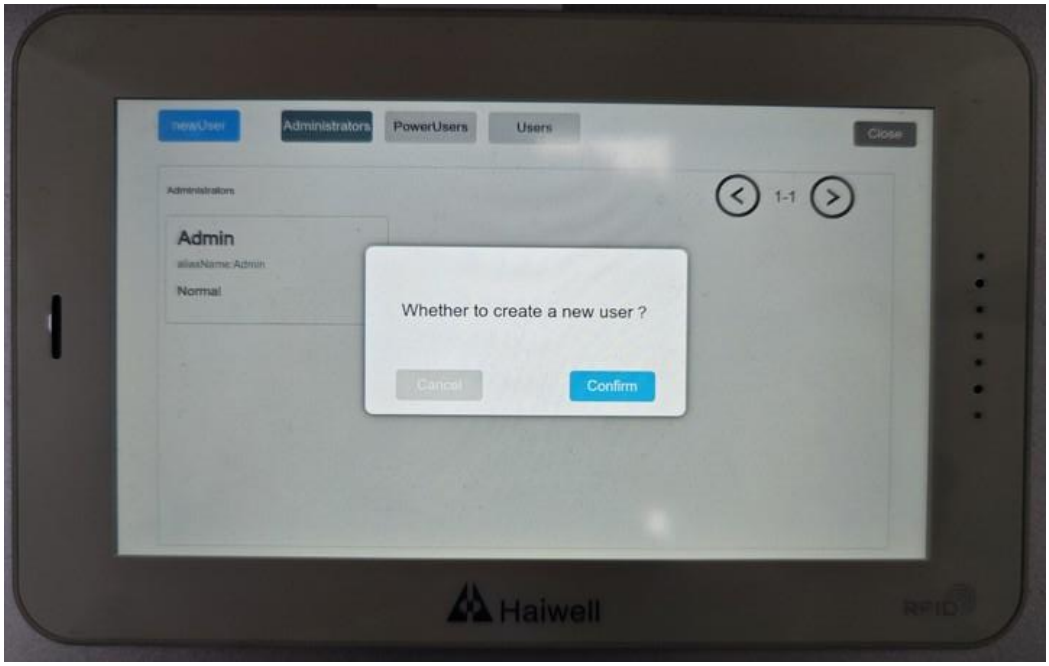
IV. RFID Modification Functionality on the Device Side

1. Creating New User's RFID

After logging in, click the "User Management" button on the interface to access the User Management screen. To create a new user, either click the【New User】button in the top-left corner or place an RFID card on the designated card reader area. The system will prompt "Create new user?" – confirm to complete the process, as illustrated in Figure 8.



(a)

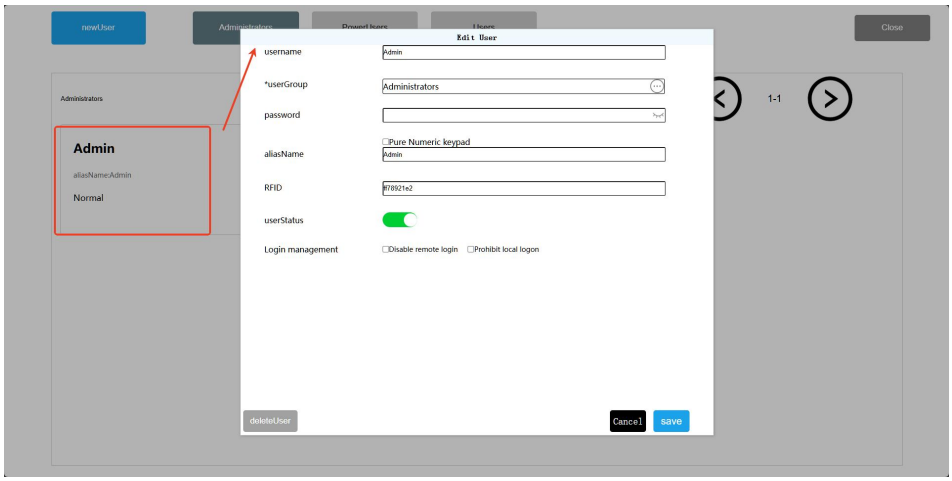


(b)

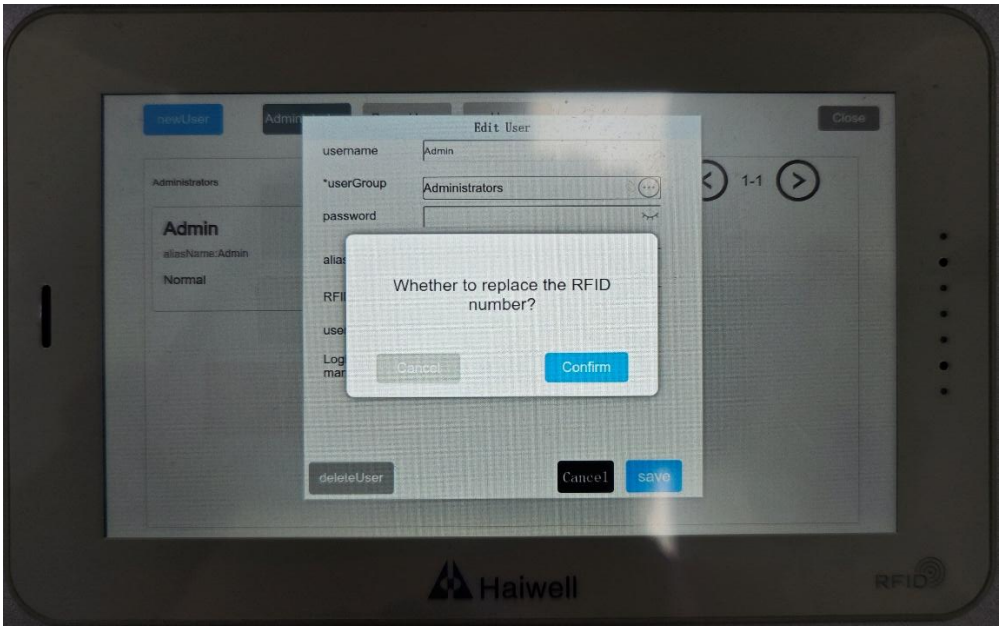
Figure8 Creating a New User's RFID

2. Edit an Existing User's RFID

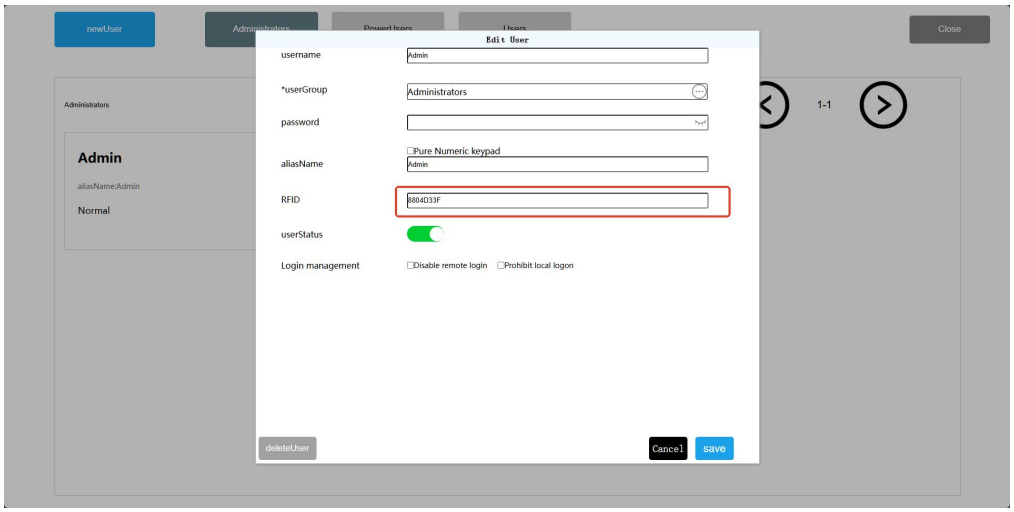
Users can directly click on the user whose RFID needs to be modified. In the RFID section, they can manually enter the new RFID number or place the RFID card on the touch screen's RFID recognition area to confirm the replacement of the RFID card number. For example, selecting admin will open the "Edit User" window. Place the RFID card on the touch screen's RFID recognition area, and a confirmation prompt will appear to replace the RFID card number. Click Confirm. After the new card number appears in the RFID section, click Save to complete the RFID modification for this user, as shown in Figure 9.



(a)



(b)



(c)

Figure9 Edit an Existing New User's RFID

V. Q&A

1. The HTCloud Designer is properly configured, but card reading fails?

Confirm the card is an IC card. Our system exclusively supports RFID cards operating at 13.56MHz.

2. How to use HMI to get RFID card number?

Please refer to II. Create Project.